DOCUMENT RESUME

ED 072 847 PS 006 220

AUTHOR	Stephens, Mark W.
TITLE	Dimensions of Locus of Control: Impact of Early Educational Experiences.
SPONS AGENCY	National Center for Educational Research and Development (DHEW/OE), Washington, D.C.
PUB DATE	6 Sep 72
CONTRACT	OEC-0-70-4952(286)
NOTE	8p.; Paper presented at the Annual Convention of the American Psychological Association (80th, Honolulu, Hawaii, September 6, 1972)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Analysis of Variance; Behavior Change; Comparative Analysis; Correlation; *Early Childhood Education; Early Experience; *Educational Experience; Grade 2; *Locus of Control; Open Education; *Psychological Testing; Reinforcement; Speeches; Technical Reports; Test Validity
IDENTIFIERS	Gruen Korte Stephens; Intellectual Achievement Responsibility; *Project Follow Through; Stephens Delys Reinforcement Contingency Interview

ABSTRACT

A study was conducted to: (1) assess the equivalence of the Nowicki Strickland Locus of Control Scale for Children, the Stephens-Delys Reinforcement Contingency Interview, and the Gruen-Korte-Stephens test and the construct validity of each; and (2) investigate the impact on IE of the open classroom Follow Through program sponsored by the Education Development Center (EDC) and the Engelmann Becker-sponsored behavior modification Follow Through program. Total N was 575 second graders. The SDRCI was administered first, individually, and the NSLCSC and GKS were group-administered to the entire class. The Text Anxiety Scale for Children and Wide Range Achievement Test were administered to provide construct validity data. IE tests were correlated with one another and with TASC and WRAT scores. Three series of ANOVs were conducted to analyze differences in scores on each IE test among groups. Intercorrelations among tests were very low. This, and the differences in group means, suggest that the IE tests reflect different variables. NSLCSC items seem to reflect expectancy of competence. Response choice on such tests as the GKS may reflect reinforcement history--the extent to which the child has been taught to verbalize responsibility-taking attitudes. But differences are clear and significant enough to assure that the varying educational experiences have systematic effects on IE variables. (KM)

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

S DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE
ON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION
POSITION OR POLICY.

ED 072847

PS 006220

Dimensions of Locus of Control: Impact of Early Educational Experiences[1]

Mark W. Stephens

Purdue University

Most Locus of Control (IE) research with children has employed the Intellectual Achievement Responsibility (IAR) test (Crandall, Katkovsky, & Crandall, 1965). It consists of 34 forced-choice questions (e.g., "If a teacher passes you to the next grade, would it probably be (A) because she liked you or (B) because of the work you did?"), all specific to the school setting. Nowicki and Strickland (Nowicki, 1971) devised a new 40-item yes-no IE test for children, the Nowicki-Strickland Locus of Control Scale for Children (NSLCSC), to assess IE expectancies both outside and within the school context (e.g., "When you get punished, does it usually seem it's for no good reason at all?"). Another new IE measure was devised by Stephens and Delys (Delys, 1971) - the Stephens-Delys Reinforcement Contingency Interview (SDRCI) - to permit testing children as young as 3 or 4. A 40-question free-response interview method, its questions pose the occurrence of presumably reinforcing events (e.g., "What makes mothers smile?", "What makes teachers angry?"); responses are coded a posteriori (rater reliability .99) as reflecting Internal (e.g., "When I help her", "When I make noise") or External ("New clothes", "The janitor") contingencies. Another new measure, the Gruen-Korte-Stephens (GKS) test (Gruen, 1970), was designed for group-testing primary grade children, employing IAR-type forced-choice questions but modeling these as much as possible after the format of SDRCI questions. This study was designed in part to assess the equivalence of these three new measures--the NSLCSC, SDRCI, and GKS--and the construct validity of each.

FILMED FROM BEST AVAILABLE COPY

Project Follow Through was conceived to evaluate the relative effectiveness of each of some 20 widely differing approaches to enriched early childhood education for disadvantaged children. Many of these approaches specify IE, or a similar variable, as a primary target. The second purpose of this study was to assess the impact of two of these approaches on IE. Among the different approaches, various "open classroom" programs in particular specify development of Internal Control as a primary goal. In apparent contrast are various "behavior modification"-oriented programs, which emphasize the teacher's careful control of reinforcement contingencies and use of reinforcement to shape the child's behavior. Such programs do not ordinarily consider IE as a target variable. However, they all insist that it is crucial that the child be aware of the contingency of the reinforcements administered on the specific classes of his responses that are being reinforced; in this respect they, too, would seem likely to increase Internal Control perceptions and expectancies, albeit in a different sense. In any case, either approach would be expected to enhance development of internal control expectancies more than traditional, non-Follow Through ghetto schools. The present study investigated the impact on IE of the open classroom Follow Through program sponsored by the Education Development Center (EDC) and the Engelmann-Becker (EB) sponsored behavior modification Follow Through program. They were compared both with one another and with a sample of disadvantaged children in a traditional (non-Follow Through) inner city school, who were expected to have lowest Internal Control scores, and also with a sample of white middle-class children in an open classroom (but not Follow Through) school, who were expected

to have the highest scores (Delys, 1971).

Method

Total N was 575 second graders: 80 (four complete classrooms) in the disadvantaged black non-Follow Through (NFT) group, 55 (three classrooms) in the middle-class white (MC) open classroom, 114 (five classrooms) from an EDC program with predominantly black and 145 (eight classrooms) from a predominantly white EDC program, 102 (five classrooms) from a predominantly black and 79 (three classrooms) from a predominantly white EB program.

Testing was conducted at the end of the school year, in May and June. The SDRCI was administered first, individually administered in vacant rooms in the school or the hallway. Then the NSLCSC and GKS were group administered to the entire class. A 20-item short form of the GKS and the 20-item short form of the NSLCSC recommended for younger children were used. Text Anxiety Scale for Children (TASC) and Wide Range Achievement Test (WRAT) scores were also collected, to provide construct validity data.

The IE tests were correlated with one another and with TASC and WRAT scores, following internal consistency (KR_{20}) analyses. Then a series of ANOVs was conducted to analyze differences in scores on each IE test between EB and EDC groups; a second series compared the NFT (disadvantaged) group with the black EB group, which came from the same community and was, therefore, most comparable in regard to variables other than educational experience; and a third series compared the MC group with the white EDC group, which was most comparable in terms of ethnic status and educational experience, although not economic status.

Results and Discussion

The NSLCSC had a KR_{20} of only .32. Internal consistency appeared

adequate for the other tests: .82 for the SDRCI, .63 for the GKS, .88 for the TASC. Intercorrelations among tests were very low (generally below .30) although, with the very large N, sometimes significant. It was obvious that the three IE tests could scarcely be assumed to be measures of the same variable.

Insert Table 1 about here

Differences in different groups' means(Table 1) further suggested that the different IE tests reflect different variables. SDRCI scores were ordered as expected: NFT scores were lowest, although only marginally ($p = .08$) significantly lower than the black EB group; EDC scores were higher than EB scores ($p = .05$), and white groups' scores tended ($p = .12$) to be higher than black groups'; and MC scores were highest, although the difference between them and the white EDC groups' scores was nonsignificant ($p = .63$). NSLCSC scores showed the same pattern except that the NFT group had higher scores than either EB group ($p = .02$ with the black EB group); otherwise only the EDC vs. EB difference was significant ($p = .003$). GKS scores showed the reverse difference between EDC and EB groups, EB groups having the higher scores ($p = .001$); NFT scores were higher than black EDC, and not significantly different from black EB, scores.

Obviously, these different IE tests reflect different variables, and the impact of early elementary educational experience on IE depends on which of these IE variables is in question. Crandall (1971) pointed out that the NSLCSC items (like many items on several other IE tests, including Rotter's adult IE scale) reflect both IE and expectancy of success. These items seem to reflect what could be termed an expectancy

of competence, in almost an Adlerian sense, rather than simply contingency of reward on effort. The IAR, GKS, and SDRCI avoid this problem; but the IAR and GKS have a different peculiarity. In each, the child must choose to overtly accept or deny responsibility for his successes or failures. This public choice itself, as reflected in either verbal or nonverbal behavior, is likely to have been subject to direct reinforcement in the past, e.g., parental praise for the comment "I've got to study because I have a test Friday," or avoidance of parental criticism for failure as a result of the comment "The teacher just don't like poor kids." Response-choice on such IE tests may, then, simply reflect the child's reinforcement history pertinent to such classes of overt responses in the past, rather than being a direct and veridical reflection of the child's IE expectancies. The GKS and IAR may reflect, that is, the extent to which the child has been taught to verbalize responsibility-taking attitudes, as the NSLCSC may reflect belief in competence.

The between-groups differences in scores on these tests fit this set of assumptions. If this interpretation is at all correct, these various tests permit a far more analytic description of the multiple impact of open classroom, behavior modification, and "traditional ghetto" school experience, as well as of economic and ethnic experience difference, than would be provided by any single locus of control test or variable. Despite the lack of correlation among tests and the complexity of between-group differences, the differences are clear (and statistically significant) enough to assure that these experiences do have systematic effects on IE-type variables and that the test scores reflect not random processes but systematic variables. The most important implication of these findings, however, is that, at least among second graders, these three IE tests are measuring different variables.

PS 00620

References

Crandall, Virginia. Discussant's comments at Symposium on Developmental Aspects of Locus of Control Expectancies: New Methods and Prospects. American Psychological Association convention, Washington, D. C., 1971.

Crandall, V. C., Katkovsky, W., & Crandall, V. J. Children's beliefs in their control of reinforcements in intellectual-academic achievement situations. Child Development, 1965, 36, 91-109.

Delys, Pamela. Individual and socioeconomic group differences in locus of control expectancies among preschool populations. Unpublished Master's thesis, Purdue University, 1971.

Gruen, G. Response style. In W. Asher (Ed.), Final Report of Phase I, USOE Contract No. OEC-0-70-4952: The development of new measures of cognitive variables in elementary school children. Lafayette, Indiana: Purdue University, 1970.

Nowicki, S. A Locus of Control scale for children. Paper read at Symposium on Developmental Aspects of Locus of Control Expectancies: New Methods and Prospects. American Psychological Association convention, Washington, D. C., 1971.

TABLE 1

Mean Scores on Each Test for Each Group

	MC NFT	EDC White	EDC Black	EB White	EB Black	Disadvantaged NFT
SDRCI total	22.9	22.4	21.5	21.2	20.2	18.7
GKS	15.8	13.9	11.3	14.9	13.5	13.3
NSLCSC	9.8	9.4	9.0	8.6	8.2	9.0

Footnote

[1] This research was supported by Contract No. OEC-0-70-4952(286) from the U. S. Office of Education.

This paper is to be read at the American Psychological Association convention, Honolulu, Sept. 6.